

# Exhibit E

# Surgical Pathology Dissection

*An Illustrated Guide*

*Second Edition*

William H. Westra, M.D.

*Department of Pathology  
The Johns Hopkins University  
School of Medicine  
Baltimore, Maryland*

Ralph H. Hruban, M.D.

*Department of Pathology  
The Johns Hopkins University  
School of Medicine  
Baltimore, Maryland*

Timothy H. Phelps, M.S.

*Department of Art as Applied to Medicine  
The Johns Hopkins University  
School of Medicine  
Baltimore, Maryland*

Christina Isacson, M.D.

*Department of Pathology  
Virginia Mason Medical Center  
Seattle, Washington*

With Forewords by Frederic B. Askin, M.D.

With 58 Illustrations



Springer

form should accompany every surgical specimen. It identifies the patient and the type of specimen, provides relevant clinical history, and alerts the prosector to specific biohazards. Referring physicians are responsible for providing this clinical information. Sometimes the information on the requisition form may not be complete, or a case may be so complex that additional clinical information is required. These situations may necessitate a review of the medical chart, evaluation of imaging studies, and/or direct communication with the requesting clinician. Do not be shy or timid; if in doubt, call the clinician.

### Anatomic Orientation

The anatomic orientation is best appreciated at the outset of the dissection while the specimen is still intact. The further the dissection progresses, the more difficult it can become to reconstruct and orient the specimen. Even when the specimen is entirely intact, orientation is not always a simple task. Unlike the surgeon viewing the specimen as it is situated in the patient, the prosector frequently cannot fully appreciate the anatomic context of the isolated specimen lying on the cutting table. Nonetheless, two steps can be taken to overcome this obstacle and confidently orient the specimen: *appreciation of anatomic landmarks* and *communication with the surgeon*.

Anatomic landmarks can be thought of as consistent features (a shape, a contour, a structure, etc.) that serve to indicate a specific structure or designate a position. For example, the uterus can be correctly oriented by the relative positions of its peritoneal reflections, and the orientation of the eye may be guided by the insertion of a specific extraocular muscle. Before proceeding with any dissection, the prosector should be familiar with the anatomy of a specimen and should be able to recognize and interpret its unique anatomic landmarks. Toward this end, an anatomy atlas should be within easy reach of the cutting table.

Sometimes, even with the guidance of an anatomy atlas, the prosector may not be able to orient the specimen. Either the specimen is too complex, or it simply does not possess any useful anatomic landmarks. In these instances, communication with the surgeon takes on a very important role. This communication may take one of

several forms. Sometimes a surgeon will use tags, sutures, and/or an accompanying diagram to designate important structures or locations on a specimen. At other times, specimen orientation may require direct communication with the surgeon.

## Step 2. Dissecting the Specimen

### The Cutting Station

The cutting station should be clean and orderly. Most routine dissections require a ruler, a scale, a scalpel with disposable blades, scissors, forceps, a probe, and a long sectioning knife. At the beginning of each day, the prosector should make certain that these tools are well maintained, clean, and within easy reach. Between dissections, these instruments and the cutting table itself should be rinsed clean of fluids and tissue fragments. This practice will help eliminate contamination of a specimen with tissue fragments from a prior dissection. Similarly, sectioning blades should be rinsed regularly during a dissection so that fragments of a friable tumor are not inadvertently transferred throughout the specimen or to other cases. Nothing is worse than not being sure if a minute fragment of cancer on a slide was a "pickup" from another case.

No more than a single specimen should be on the cutting table at any one time. Although it may seem time efficient to work on multiple specimens simultaneously, this dangerous practice openly invites the loss and mislabeling of specimens. For example, a small biopsy specimen is easily overlooked and discarded when overshadowed by a large and messy specimen on the same cutting table, while specimens of similar size and shape may easily be confused and mislabeled.

### Handling of Tissues

While all tissues are to be handled cautiously and gently, small specimens in particular are susceptible to ill-treatment. Small and delicate tissue fragments may be crushed during transfer to a tissue cassette, they may desiccate if not placed in fixative in a timely manner, and they even may be lost during processing if they are not easily seen.